

Claims:

1. A single pass drilling apparatus comprising:
5 an elongated drill steel (11) having a leading (12) and a trailing end (13) with reference to a drilling direction (F), said leading end (12) having a connection portion,
a one-piece drill bit (16) having rock machining means (17,18;17'18'), said drill bit being rigidly connected to the drill steel,
10 c h a r a c t e r i z e d i n that the single pass drilling apparatus (10) further comprises a rock bolt (21;121,221;321) adapted to at least partially enclose the drill steel (11) and in that the drill bit (16) and the rock bolt (21;121,221;321) are designed to allow the drill bit (16) to pass the rock bolt (21;121,221;321) during retraction of the drill bit.
- 15 2. The single pass drilling apparatus according to claim 1, c h a r a c t e r i z e d i n that the greatest diametrical dimension (DB) of the drill bit (16) is smaller than the smallest diametrical dimension (DI) of the rock bolt and in that the one-piece drill bit (16) comprises a pilot part (14) and a reamer part (19) having spaced
20 middle lines (CL1 and CL2, respectively).
3. The single pass drilling apparatus according to claim 2,
c h a r a c t e r i z e d i n that the middle line (CL1) of the pilot part (14) substantially coincides with the center axis of the rock bolt during drilling.
- 25 4. The single pass drilling apparatus according to claim 2,
c h a r a c t e r i z e d i n that the middle line (CL2) of the reamer part (19) substantially coincides with the rotational axis of the leading end (12) of the drill steel (11).

5. Use of a one-piece drill bit (16) that comprises a pilot part (14) and a reamer part (19) having spaced middle lines (CL1 and CL2, respectively) in a single pass drilling apparatus according to claim 1.

- 5 6. Method of single pass rock bolting comprising the following steps:
- providing a single pass drilling apparatus (10) comprising:
an elongated drill steel (11) having a leading (12) and a trailing end (13) with
reference to a drilling direction (F), said leading end (12) having a connection
portion,
 - 10 a one-piece drill bit (16) having rock machining means (17,18;17'18'), said drill bit
being rigidly connected to the drill steel,
 - enclosing the drill steel at least partially with a rock bolt (21;121,221;321), said
drill bit (16) and said rock bolt (21;121,221;321) being designed to allow the drill
bit (16) to pass the rock bolt (21;121,221;321) during retraction of the drill bit,
 - 15 - drilling a hole in a rock while pushing the rock bolt into said hole,
 - retracting said drill steel and said drill bit through the rock bolt.

7. The method according to claim 6, wherein the method comprises the further
step of providing the drill bit (16) as a one-piece drill bit comprising a pilot part
20 (14) and a reamer part (19) having spaced middle lines (CL1 and CL2,
respectively).

8. A rock bolt for a single pass drilling apparatus as defined in claim 1, said rock
bolt (221) having a partly tube shaped body having a leading end and a trailing
25 end, said trailing end having a washer and a washer stop means, said rock bolt
(221) being fluid expansible,
c h a r a c t e r i z e d i n that the rock bolt (221) is substantially semi-circular and
designed as a general U-shape to allow passage of a drill bit rigidly connected to
a drill steel.

30 9. The rock bolt according to claim 8, c h a r a c t e r i z e d i n that ends
(221A,221B) in a radial cross-section of the rock bolt are substantially
diametrically opposite to each other.